



"Think TB"

The Maine Bureau of Health urges healthcare providers to "Think TB" when evaluating potential high-risk persons such as . . .

- Foreign-born from TB endemic areas
- Residents of long-term care facilities
- Homeless or incarcerated persons
- Those with or at risk for HIV infection
- Close contacts of persons with TB
- Injection drug users

Diagnosis of Latent Tuberculosis Infection

Background. In most U.S. populations, screening for TB is done to identify infected persons at high risk for TB disease who would benefit from treatment of TB latent infection and to identify persons with TB disease who need treatment. Screening should be done in groups for which rates of TB are substantially higher than for the general population. Clinicians should tuberculin test high-risk persons as part of their routine evaluation. Institutional screening is recommended for the staff of health care facilities, as well as for the staff and residents of long-term care institutions where TB cases are found or the case rates of TB are high. The Mantoux tuberculin skin test is the preferred method of screening for TB infection.

Tuberculin Skin Test. The Mantoux tuberculin skin test (TST) is used to determine whether a person is infected with *Mycobacterium tuberculosis*. Tuberculin skin testing is contraindicated only for persons who have had a necrotic or a severe allergic reaction to a previous tuberculin skin test. It is not contraindicated for any other persons, including infants, children, pregnant women, persons who are HIV infected, or persons who have been vaccinated with BCG. The Mantoux tuberculin skin test is the standard method of identifying persons infected with *M. tuberculosis*. Multiple puncture tests (MPTs) should not be used to determine whether a person is infected.

Administering the Tuberculin Skin Test. The Mantoux tuberculin test is performed by placing an intradermal injection of 0.1 ml of purified protein derivative (PPD) tuberculin containing 5 tuberculin units (TU) into the inner surface of the forearm. The injection should be made with a disposable tuberculin syringe, just beneath the surface of the skin, with the needle bevel facing upward. This should produce a discrete, pale elevation of the skin (a wheal) 6 mm to 10 mm in diameter. Institutional guidelines regarding universal precautions for infection control (e.g., the use of gloves) should be followed.

Interpreting Skin Test Results. A trained health care worker should read the reaction to the Mantoux tuberculin skin test 48 to 72 hours after the injection. The reading should be based on a measurement of induration (swelling), not on erythema, or redness. The diameter of the induration should be measured perpendicularly to the long axis of the forearm. All reactions, even those classified as negative, should be recorded in millimeters. Some persons who have positive skin test results may have TB disease. The possibility of TB disease must be ruled out before treatment of latent TB infection is begun.

False Positive & Negative Reactions. The Mantoux tuberculin skin test is a valuable tool, but it is not perfect. False-positive and negative reactions do occur. There is no sure way to determine the true cause of the reaction.

Diagnosis of Tuberculosis Disease

When to Suspect Tuberculosis (TB). The symptoms of pulmonary TB include cough, chest pain, and hemoptysis; the specific symptoms of extrapulmonary TB depend on the site of disease. Systemic symptoms consistent with TB also include fever, chills, night sweats, easy fatigability, loss of appetite, and weight loss. TB should be considered in persons who have these symptoms. Persons suspected of having TB should be referred for a complete medical evaluation, which should include a medical history, a physical examination, a Mantoux tuberculin skin test, a chest radiograph, and any appropriate bacteriologic or histologic examinations. A positive bacteriologic culture for *M. tuberculosis* confirms the diagnosis of TB. However, if TB disease is not ruled out, treatment should be considered. Please report all suspect and confirmed cases of TB to the Maine TB Control Office.

Diagnostic Laboratory Tests. The presence of acid-fast bacilli (AFB) on a sputum smear often indicates TB. Acid-fast microscopy is easy and quick, but it does not confirm a diagnosis of TB because some acid-fast bacilli are not *M. tuberculosis*. Therefore, a culture is done to confirm the diagnosis. Culture examinations should be done on all specimens, regardless of AFB smear results. Treatment should not be initiated until specimens have been submitted to the laboratory. Laboratories should report positive smears and positive cultures within 24 hours by telephone or fax to the primary health care provider and the TB control program. For all patients, the initial *M. tuberculosis* isolate should be tested for drug resistance. It is crucial to identify drug resistance as early as possible in order to ensure appropriate treatment. For this reason, we require all laboratories to submit clinical isolates of *M. tuberculosis* to the Maine Health and Environmental Testing Laboratory (287-2727) for drug susceptibility testing.

Who to call and why. . .

To report a suspect laboratory & clinical TB case: Contact the State of Maine TB Control Office at 1-800-821-5821 or (207) 287-5194.

For clinical consultation: Because of the potential public health implications of a patient who receives inadequate or suboptimal therapy, the Maine TB Control Office, Bureau of Health, provides comprehensive services for persons with confirmed or suspect TB. These services are free to you and your patient, and include the following:

- Laboratory services for smear, culture and susceptibility studies.
- Medication for patients with disease.
- Referral for HIV Testing – HIV Testing is recommended for all TB suspects/cases by the CDC's TB Surveillance and Prevention Program and the American Thoracic Society.
- Directly Observed Therapy by Public Health Nurse for patients with disease.
- Treatment of TB latent infection (e.g. INH) for infected individuals.
- Public health nursing services to ensure follow-up of patients being treated for TB; delivery of medications; assistance with contact screening investigations etc.
- Educational materials for the primary care physician including CDC/ATS national guidelines on treatment.

If your patient, who is suspect or diagnosed TB disease, does not have access to third party insurance and is unable to pay for TB follow-up services, the TB Control Office in the Bureau of Health will provide resources for TB clinic services to a TB suspect or case at any one of the six state tuberculosis clinics located statewide.

For more information, contact the Maine TB Control Office in Augusta at 1-800-821-5821 or (207) 287-5194 or visit the Maine Bureau of Health's Division of Disease Control website at <http://www.mainepublichealth.gov>.

